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Pharmacists in Non-Primary Care Settings

PUBLISHED ARTICLES

Fairbanks, R.J., Hildebrand, J.M., Kolstee, K.E., and others (2007, October). "Medical and nursing staff highly value clinical pharmacists in the emergency department." Emergency Medicine Journal 24, pp. 716-718.
Few emergency pharmacist (EPh) programs exist, despite their potential to improve medication safety and quality of care in the ED. ED doctors and nurses highly value the presence of an EPh in the ED, often seek their advice, and feel that they improve ED care quality, according to this study. The researchers surveyed a random sample of medical and nursing staff at the ED of a large medical center with a dedicated EPh program. Nearly all respondents (99 percent) thought that the EPh improved quality of care, 96 percent considered them an integral part of the team, and 93 percent had consulted the EPh at least a few times during their last five shifts.
The ED doctors and nurses also believed that the EPh should be available for consults, to attend resuscitations, and to check medication orders. Finally, these emergency professionals preferred that high-risk and rarely used medications be checked by an EPh when possible. Clinicians who cared for children believed that a mandatory review of certain pediatric medication orders would improve medication safety. Nearly all ED physicians and nurses considered the EPh to be helpful with medical and trauma resuscitations, review of medications, and as a patient educator.

Barry L. Carter, Karen B. Farris, "The Iowa Continuity of Care study: Background and methods," Am J Health-Syst Pharm. 2008; 65:1631-42
This study is supported by the National Heart, Lung, and Blood Institute (1RO1 HL082711).
SETTING: This trial will enroll 1000 patients at the University of **Iowa** Hospitals and Clinics (UIHC), a tertiary academic health sciences center.
CONCLUSION: The study will address the value of a PCM in improving communication of care plans between the inpatient and community settings.

Scott A. Flanders, MD, Paul C. Walker, PharmD, et al, "Pharmacist Facilitated Discharge: A Prospective Study of Medication Discrepancies." poster presentation
SETTING: Prospective time-series (alternating months) study at the University of **Michigan** Hospital
CONCLUSION: Medication discrepancies are surprisingly common at hospital discharge
• A non-resident hospitalist service may be better able to prevent discrepancies
• A clinical pharmacist is able to identify and resolve discrepancies prior to discharge

• Even after discharge counseling, medication problems after discharge are common
• Addressing medication related problems at the time of discharge may reduce adverse events leading to lower rates of:
    - •Morbidity and mortality
    - • Return to ED or readmissions
    - • A single clinical pharmacist, however, is only able to impact a small % of discharges
    - • Creative strategies will be required to expand the benefits provided to larger numbers of pts

Jack BW, Chetty VK, et al, A reengineered hospital discharge program to decrease rehospitalization: a randomized trial." Department of Family Medicine, Boston University School of Medicine, Boston Medical Center, **Boston, Massachusetts** 02118, USA. brian.jack@bmc.org
FUNDING: Agency for Healthcare Research and Quality and National Heart, Lung, and Blood Institute, National Institutes of Health.
SETTING: General medical service at an urban, academic, safety-net hospital.
INTERVENTION: A nurse discharge advocate worked with patients during their hospital stay to arrange follow-up appointments, confirm medication reconciliation, and conduct patient education with an individualized instruction booklet that was sent to their primary care provider. A clinical pharmacist called patients 2 to 4 days after discharge to reinforce the discharge plan and review medications. Participants and providers were not blinded to treatment assignment.
CONCLUSION: A package of discharge services reduced hospital utilization within 30 days of discharge.

Stratton, TP, et al, "Implementing after-hours pharmacy coverage for critical access hospitals in northeast Minnesota," Am J Health-Syst Pharm 2008 65(18) 1727-1734.
FUNDING: AHRQ HS14965
SETTING: Eight rural hospitals in **northern Minnesota,** all of which are members of the Wilderness Coalition.
CONCLUSION: Using Internet-based health IT, pharmacists from a metropolitan (hub) hospital with round-the-clock pharmacist coverage participated in the care of patients at a number of small, rural hospitals and helped ensure that those patients received safe and effective medication therapy. The coverage provided by pharmacists at the hub hospital improved nursing satisfaction with the overall quality of pharmacy services provided by both the hub hospital and the local onsite pharmacists.

Wong, JD, et al, Medication Reconciliation at Hospital Discharge: Evaluating Discrepancies, Ann Pharmacother 2008;42:1373-9.
SETTING: This prospective study was conducted from March 14, 2006, to June 2, 2006, at **Toronto General Hospital**, a tertiary care teaching hospital affiliated with the University of Toronto.
CONCLUSION: Medication discrepancies occur commonly on hospital discharge.

Understanding the type and frequency of discrepancies can help clinicians better understand ways to prevent them. Structured medication reconciliation may help to prevent discharge medication discrepancies.

Rollin (Terry) Fairbanks, M.D., M.S., 'The Emergency Department Pharmacist as a Safety Measure in Emergency Medicine" ; University of
Rochester, NY
Grant No.: HS015921-01
Description: This project focuses on improving medication safety by implementing an emergency department pharmacist program. The toolkit facilitates implementing of similar programs in other hospital emergency departments. The toolkit includes a description of the formal, optimized role of the emergency department pharmacist; challenges and accompanying solutions to implementing emergency department pharmacist programs; and evidence to support the efficacy of such programs.
Toolkit Web site: http://www.EmergencyPharmacist.org

CONTACTS
The Internal Medicine group I work with is the largest in SW Georgia. Altogether it will include about 30,000 patients or so. I think we'll be providing a valuable service, and a good teaching activity for the students. We find changes, errors, etc. all the time. Found one this morning, the patient had been on Lipitor 10mg QPM prior to his hospitalization, but was discharged on simvastatin 80mg qpm. Not a huge difference, but we were able to update his clinic record so that he won't get a refill of the Lipitor - I'd be willing to bet if we hadn't done the reconciliation he would have ended up taking BOTH atorvastatin and simvastatin. We find stuff like that all the time.
After I have the IPPE students and we are able to do this for every patient who is being seen for hospital f/u I plan on collecting data and presenting at AACP, or maybe even writing a paper.
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An exceptional educational opportunity for students in The University of **Iowa** College of Pharmacy Advanced Pharmacy Practice Program is to assist The University of Iowa Hospital and Clinics (UIHC) medication reconciliation program as a part of a clinical rotation in that setting. A sufficient number of students enroll in that particular experience on a regular basis that the UIHC Department of Pharmaceutical Care has been able to build a substantial experience and program about medication reconciliation at admission and discharge. (Contact: Paul-abramowitz@uiowa.edu).

Barry Carter is leading an NIH funded team of researchers to study continuity of care (Care transitions between hospitals and community). (Contact: Barry-carter@uiowa.edu)
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As part of the Continuity of Care study, it is one of my responsibilities to give each patient that I see a wallet card with all the medications that are prescribed at discharge. One patient, WP, went home before I had the chance to give him his wallet card. When this happens, I use the physician generated discharge note that is in the patients chart to make my wallet card that I mail out to the patient because the inpatient MD discharge template has a list of all meds prescribed at discharge that they have to review before signing. In the case of WP, he came in to have his hip joint that was recently replaced "cleaned" because an infection had set in. When he was admitted, he was taking Augmentin BID. The discharge note the MD signed listed Augmentin, Cipro and Rifampin. I called to confirm that they really wanted all 3 before I mailed out the card but the inpatient MD told me he only actually wanted Cipro and Rifampin. I then edited the outpt med list in the patients electronic chart to reflect that Augmentin was not to be continued post discharge. Another similar example happened with this same patient as well. He had a history of a pulmonary embolism with a surgery 10 years ago to have his colon removed due to ulcerative colitis. Due to that PE, he takes a 6 week course of warfarin prior to any major surgery. When he came into the hospital to have his hip joint wound drained, he had already completed 4 weeks of the 6 week total course of warfarin as a thromboprophylaxis. The discharge note in his chart listed warfarin and aspirin 325 mg BID. I called the inpatient team to verify they wanted to do both agents before I mailed out the wallet card. The inpt team again told me that they only intended him to take Aspirin, even though they signed off on the discharge med list that contained warfarin. I edited his med list and called the patient to make sure he was aware/understood this change to his regimen.

What can be frustrating with this discharge template that inpatient teams use is that the med list pulls in automatically but they don't always review it. This only creates confusion for the rest of the health care workers that may be looking at the discharge notes or for the patient's PCP because sometimes the discharge note is sent to the patient's PCP as a record of their hospital course. The examples that I described above happen quite commonly. And while I might be aware of the discrepancy in the medications that does not mean that someone else will recognize the problem. This is dangerous because it only breeds misunderstanding for the patient and their health care providers and potential ADEs. When I call patients to inform them of mistakes that I catch like the one described above, I feel like there is a lot of confusion because when the doctor is talking with them about the changes to their medications before they go home the patient is usually overwhelmed with the discharge process (i.e. making sure they get hard copies of prescriptions, worrying about billing, making sure they retrieve all their personal belongings, etc) and/or they are groggy/confused from pain meds. For example, when I called WP to tell him about the changes, he did say he remember the doctors telling him about them but he didn't realize the aspirin was supposed to be BID.

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At OUMC, a policy is in place for medication reconciliation during transitions in care and at patient discharge (in addition to other situations, such as hospital admission). When patients are transferred to a different setting, service, practitioner, or level of care within the organization, the current list of patient medications (including home medications) is reviewed by the accepting physician. At this point, medications are discontinued and/or new medications are ordered as appropriate. Current medications can be continued following the review as well. At time of discharge, current medications and home medications are reviewed by the discharging physician. The physician enters or writes orders to continue, discontinue, or add medications to the patient's medication list for discharge. Blanket orders such as "resume all previous home medications" are not allowed. The discharging nurse completes the discharge section of the Medication Reconciliation form (this form is started at time of admission, placed in the patient's chart, and documents the admission medication reconciliation process), marking "ordered" or "not ordered" based on the physician's orders. This nurse also clarifies any issues with the discharge medication list (e.g. omission, therapy duplication, drug allergies, etc.) and signs the form as the discharge reviewer. The patient is given a discharge summary form with the final discharge medications listed, and the nurse reviews the form with the patient. When available, pharmacist discharge counseling is provided as well. The current medication reconciliation process at OUMC is carried out through an electronic and paper system. This process is scheduled to move to a completely electronic system within the next few weeks and the current policy is being modified accordingly.

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Yes, we have a discharge medication reconcilation program. An ambulatory care pharmacist visits patients who are being discharged to review their meds with them. If the patient would like, we will prepare the prescriptions and deliver them to the patient's room. We have implemented though the majority of our patient care units and at our Huntsman Cancer Center.

Please let me know what additional information would be useful. You can contact me for more info or Russ Ragsdale who is director of our Outpatient Pharmacy Services. I have copied him on this as well.

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I am one of several clinical pharmacists who work in **U of Utah** ambulatory care settings who have been assigned to work on various floors/services at the University of Utah Hospital to review patient's admission med recs, contact providers about any potential problems & resolve those prior to discharge, as well as to ask patients whether they would like our OP pharmacy to fill medications for them at that time.

Laura Roller, PharmD is the contact person who is also collecting data about this service, so I've copied this email to her in the event that you have other questions.
Regards,
Lynda

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The Department of Pharmacotherapy at **Washington State University** College of Pharmacy has several faculty members who are using a tool to detect and resolve medication discrepancies in the home environment. Specifically, the Geriatric Team individuals are working with clients in their homes who are referred to Elder Services, the Visiting Nurse Association or Family Home Care. Often the initial home visit occurs because of a transition between care settings.

Our WSU Geriatrics Team is led by Stephen Setter, PharmD. Dr. Setter and his collaborators are working with and conducting research utilizing the Medication Discrepancy Tool (MDT) developed by Dr. Eric Colemen at the University of Colorado. The MDT is designed to facilitate reconciliation of medication regimens across settings and prescribers.

Contact information for Dr. Setter is:

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At Fraser Health (**British Columbia, Canada)**, we have several medication reconciliation program and a program where pharmacists make home visits to do medication reconciliation. Medication reconciliation has been trialed at one of our acute care sites. Our FH Renal Program will also be starting a program for medication reconciliation.

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